

CLAIMS

What is claimed is:

1. A substrate manager, comprising:

a substrate storage system with a stack of substrates;

a substrate picker for picking substrates from the stack of substrates;

a substrate inverter system for inverting the substrates; and

a substrate transfer system for providing the substrates, after being inverted, to an imaging engine.

2. A substrate manager as claimed in claim 1, wherein the substrate storage system is capable of containing multiple cassettes for holding stacks of substrates.

3. A substrate manager as claimed in claim 1, wherein the substrate picker includes a substrate peeler for separating a substrate from the stack of substrates.

4. A substrate manager as claimed in claim 3, further comprising a sheet separator for ensuring that a sheet separating substrates is separated from the substrate that is being picked by the substrate picker.

5. A substrate manager as claimed in claim 1, wherein the substrate inverter system comprises an arcuate transfer path over which substrates are carried to invert the substrates and transfer the substrates between the substrate storage system and the substrate transfer system.

6. A substrate manager as claimed in claim 1, wherein substrate inverter system comprises a leading arm and a lagging arm for carrying the substrates over an arcuate transfer path between the substrate storage system and the substrate transfer system.

7. A substrate manager as claimed in claim 6, wherein the leading arm carries a header of the substrates over the arcuate transfer path and the lagging arm carries a trailing edge of the substrates over the arcuate transfer path.

8. A substrate manager as claimed in claim 1, wherein substrate inverter system comprises at least one arm that includes a first roller and a second roller for both holding substrates and moving the substrates relative to the at least one arm.

9. A plate inverter for a platesetter system, the plate inverter comprising:

5 a plate picker for picking a plate; and
 an arcuate transfer path over which the plate is conveyed between the plate picker
 and an imaging engine.

10. A plate inverter as claimed in claim 9, wherein the plate is conveyed over the
10 arcuate transfer path to convert the plate from an emulsion side down orientation to an
 emulsion side up orientation.

11. A plate inverter as claimed in claim 9, further comprising a leading arm and a
 lagging arm for carrying the plates over the arcuate transfer path between the plate
 picker and the imaging engine.

12. A plate inverter as claimed in claim 11, wherein the leading arm carries a header of
15 the plate over the arcuate transfer path and the lagging arm carries a trailing edge of the
 plate over the arcuate transfer path.

13. A plate inverter as claimed in claim 11, wherein the leading arm comprises a first
 roller and a second roller for both holding the plate and moving the plate relative to the
 leading arm.

20 14. A method of managing substrates for a substrate exposure machine, the method
 comprising:

 storing substrates to be exposed in a stack of substrates;
 picking the substrates from the stack of substrates;
 inverting the substrates; and
25 conveying the substrates, after being inverted, to an imaging engine.

15. A method as claimed in claim 14, wherein the step of storing substrates comprising storing stacks of substrates in cassettes.

16. A method as claimed in claim 14, wherein the step of picking the substrates includes peeling the substrates to separate the substrates from the stack of substrates.

5 17. A method as claimed in claim 14, further comprising separating slip sheets from the substrates as the substrates are being picked.

18. A method as claimed in claim 14, wherein step of inverting the substrates comprises conveying the substrates over an arcuate transfer path.

10 19. A method as claimed in claim 18, wherein the step of conveying the substrates over the arcuate transfer path comprises:

holding headers of the substrates with a leading arm and guiding the headers over the arcuate transfer path; and

holding trailing edges of the substrates with a lagging arm and guiding the trailing edges over the arcuate transfer path.

15 20. A method as claimed in claim 19, further comprising feeding the substrates with rollers on the leading arm after the headers of the substrates have been conveyed over the arcuate transfer path.

21. A plate handler for a platesetter system, the plate handler comprising:

an arm including a first nip roller and a second nip roller for closing on a plate and

20 pulling the plate through an arcuate path and then rotating to drive the plate between the first nip roller and the second nip roller.

22. A plate handler as claimed in claim 21, further comprising a second arm including a first nip roller and a second nip roller for conveying a trailing edge of the plate over the arcuate path.

23. A plate handler as claimed in claim 21, wherein the plate handler receives plates from a plate storage system

24. A plate handler as claimed in claim 21, wherein the plate handler provides plates to an imaging engine.